



FiCloud 2019

The 7th International Conference on Future Internet of Things and Cloud



MobiWis 2019

The 16th International Conference on Mobile Web and Intelligent Information Systems



Innovate-Data 2019

The 5th International Conference on Big Data Innovations and Applications



DEEP-ML 2019

The 1st International Conference on Deep Learning and Machine Learning in Emerging Applications

26-28 August 2019, Istanbul, Turkey





ADVANCE PROGRAM

SYMPOSIA and WORKSHOPS

ICI 2019

The 6th International Symposium on Intercloud and IoT

MobiApps 2019

The 6th International Workshop on Mobile Applications

PMECT 2019

The 13th International Symposium on Performance Modeling and Evaluation of Computer and Telecommunication Networks in Cloud & IoT

DS4IDS 2019

The 3rd International Workshop on Data Science for Intelligent Decision Support

CSW 2019

The 3rd International Workshop on Cyber Security

AIRS2 2019

The 1st International Symposium on Artificial Intelligence, IoT, Robotics and Smart Systems

KEYNOTE TALK

Data Security and Privacy in Emerging Scenarios

Prof. Pierangela Samarati

Universita` degli Studi di Milano

Italy

Abstract:

The rapid advancements in Information and Communication Technologies (ICTs) have been greatly changing our society, with clear societal and economic benefits. Mobile technology, Cloud, Big Data, Internet of things, services and technologies that are becoming more and more pervasive and conveniently accessible, towards to the realization of a 'smart' society'. At the heart of this evolution is the ability to collect, analyze, process and share an ever increasing amount of data, to extract knowledge for offering personalized and advanced services. A major concern, and potential obstacle, towards the full realization of such evolution is represented by security and privacy issues. As a matter of fact, the (actual or perceived) loss of control over data and potential compromise of their confidentiality can have a strong detrimental impact on the realization of an open framework for enabling collection, processing, and sharing of data, typically stored or processed by external cloud services. In this talk, I will illustrate some security and privacy issues arising in emerging scenarios, focusing in particular on the problem of managing data while guaranteeing confidentiality and integrity of data stored or processed by external providers.

Biography:

Pierangela Samarati is a Professor at the Department of Computer Science of the Universita` degli Studi di Milano, Italy. Her main research interests are on data and applications security and privacy, especially in emerging scenarios. She has participated in several projects involving different aspects of information protection. On these topics, she has published more than 270 peer-reviewed articles in international journals, conference proceedings, and book chapters. She has been Computer Scientist in the Computer Science Laboratory at SRI, CA (USA). She has been a visiting researcher at the Computer Science Department of Stanford University, CA (USA), and at the Center for Secure Information Systems of George Mason University, VA (USA). She is the chair of the IEEE Systems Council Technical Committee on Security and Privacy in Complex Information Systems (TCSPCIS), of the ERCIM Security and Trust Management Working Group (STM), and of the ACM Workshop on Privacy in the Electronic Society (WPES). She is a

member of several steering committees. She is ACM Distinguished Scientist (named 2009) and IEEE Fellow (named 2012). She has received the ESORICS Outstanding Research Award (2018), the IEEE Computer Society Technical Achievement Award (2016), the IFIP WG 11.3 Outstanding Research Contributions Award (2012), and the IFIP TC11 Kristian Beckman Award (2008). She has served as General Chair, Program Chair, and program committee member of several international conferences and workshops.

INVITED INDUSTRY TALK 1

Digital Health

Dr. Soumya Kanti Datta

EURECOM

France

Abstract:

This talk will focus on Digitalisation in the healthcare industry. Soumya will highlight the challenges of daily activity monitoring of elderly people for active and healthy aging. The physical activities recognized are further used to provide coaching (e.g. improving lifestyle, reducing stress) to the users. He will also present of a GDPR compliant privacy aware data processing framework.

Biography:

Dr. Datta is a research engineer in EURECOM, France. He has a number of years of R&D experiences on IoT, Cybersecurity, and Standardization. He has previously contributed to French national, EIT Digital, and EU H2020 research projects. He has published 80+ research papers and articles in top ACM and IEEE publications. He leads the activities of IEEE CE Society Future Directions Team on IoT and is an Associate Editor in IEEE Consumer Electronics Magazine. Soumya is also the recipient of several awards for his IoT research and leadership from IEEE GCCE 2015 (Japan), IEEE ISCE 2017 (Malaysia), IEEE Tensymp 2018 (Australia), and IEEE ICII 2018 (USA). He is a Senior Member of IEEE and regularly delivers Keynote and Tutorial speeches in international technical and business conferences. He is also involved in W3C Web of Things (WoT) Working Group for WoT standard development activities. He obtained an M.Sc. in Communications and Computer Security from Telecom ParisTech (EURECOM), France.

INVITED INDUSTRY TALK 2

Modularity as a Support for Frugal Product and Supplier Network Co-Definition under Regional Market Constraints

Gökhan Büyükdıđan and Osman Er

Arçelik A.S.

Turkey

Abstract:

Creating new products or adapting existing ones to fit with specific customer requirements from regional as well as emerging markets is a challenging issue for competitive companies that work to maintain acceptable market share rates. Besides the importance of providing original solutions tailored to the target market characteristics, companies should consider their production strategy as a key factor for reaching frugality objectives under regional constraints. The co-evolution of product and production network aims to provide a concurrent design and management of product architecture, local production systems, and OEM–suppliers relationships. This talk will discuss about a modular-based approach -- for mirroring hypothesis for supporting the co-definition of product structure and supplier network. Supplier selection and evaluation method for frugal innovation perspective is proposed as a key part of the proposed approach and applied in an industrial use case for validation.

Biography:

Gökhan Büyükdıđan (BSc. Industrial Engineering Bilkent University, MBA Koç University) is currently working as Investment Manager Production Technologies Directorate in Arçelik. Mr. Büyükdıđan has a significant expertise in production technologies and automation. From 2017-2019 he worked as an Industrial Engineering Team Leader in Production Technologies & Industry 4.0 Directorate, as a Team Leader for Production Technologies & Automation and Team Leader for Assembly Lines & Maintenance in Arçelik Washing Machine Plant between 2007 to 2011. His interests include Factory of the Future with 4.0 Solutions, Predictive Maintenance, Reliability, Theory of Constraints, Material Handling Systems, Integrated Factory and Automation, Manufacturing Management Systems Development, ICT, Digital Factory, Simulation, TPM (LEAN) Supervision.

Osman Er is working as Automation Engineer in Arçelik A.Ş. He also worked as an Automation Project Engineer in Vestel Home Appliances. He has experience in industrial automation, robotics and data acquisition from production systems.

MONDAY, 26 AUGUST 2019

Registration: starts at 8:00 am

9:00-9:30 Conference Opening (Room: Elmas)

09:30-10:30 Plenary Session: Keynote I

Data Security and Privacy in Emerging Scenarios
Prof. Pierangela Samarati, Università degli Studi di Milano, Italy

Session Chair: Markus Aleksy, ABB Corporate Research Center, Germany
Room: Elmas

10:30-11:00 Coffee Break

11:00-12:30 Parallel Sessions

FiCloud Session 1: Fog and Edge Computing

Session Chair: Helen D. Karatza, Aristotle University of Thessaloniki, Greece
Room: Elmas

Cost-Effective Utilization of Complementary Cloud Resources for the Scheduling of Real-Time Workflow Applications in a Fog Environment
Georgios L. Stavrinides and Helen D. Karatza

A Real-time Task Offloading Strategy based on Double Auction for Optimal Resource Allocation in Edge Computing
Zhipeng Gao, Congcong Yao, Kaile Xiao, Zijia Mo, Qian Wang and Yang Yang

From the Edge to the Cloud: Enabling Reliable IoT Applications
Cristian Martin, Daniel Garrido, Manuel Diaz and Bartolome Rubio

Multi-Tier Edge-to-Cloud Architecture for Adaptive Video Delivery
Roger Immich, Leandro Villas, Luiz Bittencourt and Edmundo Madeira

MobiWis Session 1: Mobile Apps and Services

Session Chair: Pablo Adasme, University of Santiago de Chile, Chile
Room: Divan 1

A Variable Neighborhood Search Algorithm for Massive MIMO Resource Allocation
Pablo Adasme and Abdel Lisser

A Play-based Interactive Learning Approach for Fostering Counting and Numbers Learning Skills for Early Childhood Education Using QR Codes Mobile Technologies

Yaser Mowafi, Ismail Abumuhfouz, and Jenni Redifer

Detecting Defected Crops: Precision Agriculture using Haar Classifiers and UAV

Mehmet Doğan Altınbaş and Tacha Serif

An Efficient Tool for Learning Bengali Sign Language for Vocally Impaired People

Muhammad Nazrul Islam, A M Shahed Hasan, Tasmiah Tamzid Anannya, Tani Hossain, Marium Binte Ibrahim Ema, and Shoab Ur Rashid

DEEP-ML Session 1: Deep Learning Models and Techniques

Session Chair: Pinar Kirci, Istanbul University, Turkey

Room: Divan 2

A Deep Learning Based Distributed Smart Surveillance Architecture using Edge and Cloud Computing

Halil Can Kaşkavalcı and Sezer Gören

Evaluation of Deep Learning Techniques in Sentiment Analysis from Twitter Data

Sani Kamış and Dionysis Goularas

An Application of a Deep Learning Algorithm for Automatic Detection of Unexpected Accidents under bad CCTV Monitoring Conditions in Tunnels

Kyu Beom Lee and Hyu Soung Shin

Energy Efficient Smart Buildings: LSTM Neural Networks for Time Series Prediction

Idil Sülo, Seref Recep Keskin, Gülüstan Dogan and Theodore Brown

12:30-13:30

Lunch

13:30-15:00

Parallel Sessions

FiCloud Session 2: Security and Authentication

Session Chair: Luiz Fernando Bittencourt, University of Campinas, Brazil

Room: Elmas

Anonymous IoT Mutual Inter-device Authentication Scheme based on Incremental Counter (AIMIA-IC)

Mohammed Alshahrani, Issa Traore and Isaac Woungang

Secure and Efficient Cluster Head Election in a UAV-aided Wireless Sensor Network

Gicheol Wang, Soojeon Lee, Byoung-Sun Lee and Jae Young Ahn

An Updateable Token-Based Schema for Authentication and Access Management in Clouds

Tayyebe Emadinia, Faraz Fatemi Moghaddam, Philipp Wieder, Shirin Dabbaghi and Ramin Yahyapour

Ransomware Prediction Using Supervised Learning Algorithms

Umaru Adamu and Irfan Awan

Towards a Formal Approach based on Bigraphs for Fog Security: Case of Oil and Gas Refinery Plant

Ayoub Bouheroum, Zakaria Benzadri and Faiza Belala

MobiWis Session 2: Web and Mobile Applications

Session Chair: Do Van Thanh, Telenor, Norway

Room: Divan 1

Color Marker Detection with WebGL for Mobile Augmented Reality Systems

Milan Košťák, Bruno Ježek and Antonín Slabý

Comparison of the Development of Native Mobile Applications and Applications on Facebook Platform

Michal Macinka and Filip Maly

The Need for Mobile Apps for Maternal and Child Health Care in Center and East Europe

Sebastien Mambou, Ondrej Krejcar, Petra Maresova, Ali Selamat and Kamil Kuca

Committee of the Combined RBF-SGTM Neural-Like Structures for Prediction Tasks

Roman Tkachenko, Pavlo Tkachenko, Ivan Izonin, Pavlo Vitynskyi, Natalia Kryvinska and Yurii Tsymba

DEEP-ML Session 2: Machine Learning in Financial Applications

Session Chair: Sezer Gören Uğurdağ, Yeditepe University, Turkey

Room: Divan 2

Building Domain-Specific Lexicons: An Application to Financial News

Savas Yıldırım, Dhanya Jothimani, Can Kavaklıo and Ayse Basar Bener

Risk Parity models for Portfolio Optimization: A Study of the Toronto Stock Exchange

Dhanya Jothimani and Ayse Basar Bener

Comparative study of neural networks and decision trees for application in trading financial futures

Saulius Blažiūnas and Aistis Raudys

Machine Learning for Factors of Complications in Credit Scoring Process: Toward A Machine Learning-based generic API for Credit Scoring

Papa Alioune Cisse and Diyé Dia

15:00-15:30

Coffee Break

15:30-17:00

Parallel Sessions

FiCloud Session 3: SDN and Sensor Networks

Session Chair: Tacha Serif, Yeditepe University, Turkey

Room: Elmas

Enabling Multi-tenants Isolation for Software-defined Cloud Networks via XMPP and BGP: Implementation and Evaluation

Yue Li, Tomasz Osinski and Abdulhalim Dandoush

A Framework for Distributed Denial of Service Attack Detection and Reactive Counter Measure in Software Defined Network

Abimbola Sangodoyin, Bashir Mohammed, Sibusiso Moyo, Irfan Awan and Jules Pagna Disso

Self-healing Anonymous Routing in Unstable Sensor Networks

Nikita Baranov, Mikhail Bashkin and Vladimir Bashkin

Vehicular Sinks over Wide Area Wireless Sensor Networks for Telemetry Applications in Logistics

Nicola Zingirian and Mattia Dalla Via

Defining the Communication Architecture for Data Aggregation in Wireless Sensor Networks: Application to Communicating Concrete Design

Hang Wan, Michael David and William Derigen

MobiWis Session 3: Security and Privacy

Session Chair: Aneta Poniszewska-Maranda, Lodz University of Technology, Poland

Room: Divan 1

Classification Analysis of Intrusion Detection on NSL-KDD using Machine Learning Algorithms

Yoney Kirsal Ever, Boran Sekeroglu, and Kamil Dimilliler

Infrastructure Authentication, Authorization and Accounting Solutions for an OpenStack Platform

Lubos Mercl, Vladimir Sobeslav, Peter Mikulecky and Michal Macinka

Security Measures in the Vehicular Ad-Hoc Networks: Man in the Middle Attack

Krzysztof Stepien and Aneta Poniszewska-Maranda

A Framework for Secure and Trustworthy Data Management in Supply Chain
Shinsaku Kiyomoto, Yuto Nakano, Atsushi Waseda, Toru Nakamura, Masahito Ishizaka and Yasuaki Kobayashi

Innovate-Data Session 1: Advances in Big Data Systems

Session Chair: Aytuğ Onan, İzmir Katip Çelebi University, Turkey

Room: Divan 2

Enabling Joins over Cassandra NoSQL Databases

Haridimos Kondylakis, Antonis Fountouris, Apostolos Planas, Georgia Troullinou, Dimitris Plexousakis

MapReduce Join Across Geo-distributed Data Centers

Giuseppe Di Modica and Orazio Tomarchio

Mobile Device Identification via User Behavior Analysis

Kadriye Dogan and Ozlem Durmaz Incel

A SAT-based Formal Approach for Verifying Business Process Configuration

Abderrahim Ait Wakrime, Souha Boubaker, Slim Kallel and Walid Gaaloul

17:00-18:30

Parallel Sessions

FiCloud Session 4: Security, Privacy and Safety

Session Chair: Mohammed Qasim Alkhalidi, Edge Hill University, UK

Room: Elmas

Multi-Layer Approach to Internet of Things (IoT) Security

Yusuf Muhammad Tukur, Dhavalkumar Thakker and Irfan-Ullah Awan

Privacy-Aware Cloud Ecosystems and GDPR Compliance

Masoud Barati, Omer Rana, George Theodorakopoulos and Peter Burnap

Securing Marine Data Networks in an IoT Environment

Mohammed Al-Khalidi, Rabab Al-Zaidi, John Woods, Martin Reed and Ella Pereira

Infrastructureless IoT-as-a-Service for Public Safety and Disaster Response

Alina Buzachis, Maria Fazio, Antonino Galletta, Antonio Celesti and Massimo Villari

Cooperative-Intelligent Transport Systems for Vulnerable Road Users Safety.
Jordi Casademont, Anna Calveras, David Quiñones, Mònica Navarro, Javier Arribas and Miguel Catalán-Cid

MobiWis Session 4: Wireless Networks and Cloud Computing

Session Chair: Pinar Kirci, Istanbul University, Turkey

Room: Divan 1

IoT Aboard Coastal Vessels: A Case Study in the Fishing Industry
Andreas Vollen and Moutaz Haddara

Load Balancing in Multi-Cellular 4G using Cloud Computing
Ravyar Jasim Hamd, Tara Ali Yahiya and Pinar Kirci

A Lightweight Data Transfer Mechanism for Mobile Device over Poor Wi-Fi Signal
Nor Shahniza Kamal Bashah, Siti Zubaidah Idris, Noor Habibah Hj Arshad, Norjansalika Janom, Syaripah Ruzaini Syed Aris

Secure 5G Network Slicing for Elderly Care
Boning Feng, Van Thuan Do, Niels Jacot, Bernardo Santos, Bruno Dzogovic, Ewout Brandsma and Thanh van Do

Innovate-Data Session 2: Machine Learning and Data Analytics

Session Chair: Helen D. Karatza, Aristotle University of Thessaloniki, Greece

Room: Divan 2

TSWNN+: Check-in prediction based on Deep Learning and Factorization Machine
Chang SU, Ningning Liu, Xianzhong Xie, and Shaowen Peng

Deep Learning Based Sentiment Analysis on Product Reviews on Twitter
Aytuğ Onan

A Cluster-Based Machine Learning Model for Large Healthcare Data Analysis
Fatemeh Sharifi, Emad Mohammed, Traord Crump and Behrouz H. Far

Satire Detection in Turkish News Articles: A Machine Learning Approach
Mansur Alp Toçoğlu and Aytuğ Onan

19:30-21:30

Welcome Reception

TUESDAY 27 AUGUST 2019

09:00-10:30

Plenary Session: Invited Industry Talk 1

Digital Health

Dr. Soumya Kanti Datta, EURECOM, France

Session Chair: Vincenzo Piuri, University of Milan, Italy

Room: Elmas

FiCloud Session 5: Cloud Market, Trading and Cost Models

Session Chair: Faiza Belala, University of Constantine2-Abdelhamid Mehri

Room: Divan 1

Bazaar-Contract: A Smart Contract for Binding Multi-round Bilateral Negotiations on Cloud Markets

Benedikt Pittl, Stefan Starflinger, Werner Mach and Erich Schikuta

Equity Crowdfunding in Real Estate

Andreas Mladenow, Regina Cernicka, Christine Strauss, Valerie Busse and Michal Gregus

Adaptive Trading of Cloud of Things Resources

Ahmed Salim Alrawahi, Ahmad Lotfi and Kevin Lee

A Model for Successful Adoption of Cloud-based Services in Indian SMEs

Nitirajsingh Sandu and Ergun Gide

On the Cost of the Management of User Applications in a Multicloud Environment

Giuseppe Di Modica, Antonella Di Stefano, Orazio Tomarchio and Giovanni Morana

MobiApps Session 1: Mobile Applications I

Session Chair: Wael M El-Medany, University Of Bahrain, Bahrain

Room: Divan 2

Sign Language Translator using the Back Propagation Algorithm of an MLP

Roger Achkar, Gaby Abou Haidar, Dian Salhab, Antoine Sayah and Fadi Joubran

Developing a Mobile Application for Safety Engineers for Hazard Analysis

Suat Kasap, Mastourah AlRashedi, Nejoud AIMutairi, Fay AlDallal, Sarah AlShaddad and Muneerah Alshaddad

Assessment of Motion Quality using an IoT-based Wearable and Mobile Joint Flexion Sensors

Mohammed Ghazal, Marah Alhalabi, Luay Fraiwan, Maha Yaghi, and Lina Alkhatib

Word Length Interval Dependency for Mobile Rapid Sentence Reading
Toshiyuki Maeda, Akiyoshi Wakatani and Masumi Yajima

10:30-11:00

Coffee Break

11:00-12:30

Parallel Sessions

FiCloud Session 6: Advanced Networks and Services

Session Chair: Gaith Rjoub, Concordia University, Canada

Room: Elmas

Distributed Network Behaviour Prediction Using Machine Learning and Agent-based Micro Simulation

Omololu Makinde, Abimbola Sangodoyin, Bashir Mohammed, Daniel Neagu and Umaru Adamu

Deep Smart Scheduling: A Deep Learning Approach for Automated Big Data Scheduling over the Cloud

Gaith Rjoub, Jamal Bentahar, Omar Abdel Wahab and Ahmed Bataineh

SD: Aa Divergence-based Estimation Method for Service Demands in Cloud Systems

Salvatore Dipietro and Giuliano Casale

DLA: Detecting and Localizing Anomalies in Containerized Microservice Architectures Using Markov Models

Areeg Samir and Claus Pahl

MobiWis Session 5: Intelligent Mobile Applications

Session Chair: Tor-Morten Gronli, Kristiania University College, Norway

Room: Divan 1

Monitoring Driver Behaviour with BackPocketDriver

Ian Warren, Andrew Meads, Chong Wang, and Robyn Whittaker

Towards Efficient and Scalable Machine Learning-based QoS Traffic Classification in Software-Defined Network

Fatimah Audah M. Z., Tan Saw Chin, Zulfadzli Y, Lee C.K and Rizaluddin K

An Expert System Approach for the Diagnosis and Rectification of Yarn Faults

Dawit Teklu Weldeslasie, Gebremariam Mesfin, Tor-Morten Gronli, Muhammad Younas and Gheorghita Ghinea

Mobile AR Solution for Deaf People: Correlation between Face Detection and Speech Recognition

Ales Berger, Milan Kostak and Filip Maly

VR-Fit: Walking-in-Place Locomotion with Real Time Step Detection for VR-enabled Exercise

Sercan Sari and Ayse Kucukyilmaz

MobiApps Session 2: Mobile Applications II

Session Chair: Mohammed Ghazal, Abu Dhabi University, UAE

Room: Divan 2

Localized Assistive Scene Understanding using Deep Learning and the IoT

Mohammed Ghazal, Tasnim Basmaji, Montasir Qasymeh, Reem Salim, and Ashraf Khalil

On Mobile Applications based on Proximity

Dmitry Namiot, Manfred Sneps-Sneppe and Romass Pauliks

Full-Rate Full-Diversity Distributed Orthogonal Space-Time Block Codes

Alhossin Aljadai, Abdulghani Elazreg and Ahmad Kharaz

MSF: A Comprehensive Security Framework for mHealth Applications

Medha Srivasatava and Geethapriya Thamilarasu

Towards a Blockchain-Based Zero-Knowledge Model for Secure Data Sharing and Access

Hasan Alaswad, Hesham Hasan, Wael M El-Medany, Mazen Ali and Chitra Balakrishna

12:30-13:30

Lunch

13.30-15:00

Parallel Sessions

FiCloud Session 7: Smart Environment

Session Chair: Mário Antunes, IT Aveiro, Portugal

Room: Elmas

MAS5G: Move Around Smartly in 5G

Satish Kumar, Rahul Banerji, Naman Gupta, Suman Kumar, Sukhdeep Singh, Avinash Bhat, Seungil Yoon and Shatarupa Dash

A Change Detection Approach for Processing Outdoor Scenes on Hadoop Clusters

Eihab SaatiAlSORUJI

Towards a Smart Home for Elder Healthcare

Noureddine Staifi, Said Brahim, Ramdane Maamri and Meriem Belguidoum

IoT and Microservice Architecture for Multimobility in a Smart City

Cristian Lai, Francesco Boi, Alberto Buschetti and Renato Caboni

Reference Architectures and Standards for the Internet of Things and Big Data in Smart Manufacturing

Perin Unal

MobiWis Session 6: Mobile Web and Practical Applications

Session Chair: Stephan Böhm, Rheinmain University, Germany

Room: Divan 1

Hybrid Distributed Computing System based on Canvas and Dynamo

Sebastien Mambou, Ondrej Krejcar, Ali Selamat and Kamil Kuca

Evaluation of Crosshair-aided Gyroscope Gamepad Controller.

Ali Osman Toktaş and Tacha Serif

Prioritizing use cases for development of mobile apps using AHP: A case study in To-Do List Apps

Onur Yildirim and Serhat Peker

Contextual Push Notifications on Mobile Devices: A Pre-Study on the Impact of Usage Context on User Response

Stephan Bohm, Holger Driehaus and Maximilian Wick

Data Management Model for Internet of Everything

Lulwah Alsuwaidan

AIRS2 Session 1: Artificial Intelligence, IoT, Robotics and Smart Systems 1

Session Chair: Tetiana Biloborodova, Volodymyr Dahl East Ukrainian National University, Ukraine

Room: Divan 2

Research of Efficiency of Multi-Core Computers with Shared Memory

Dmytro Nedzelskyi, Maryna Derkach, Yehor Tatarchenko, Svitlana Safonova, Larisa Shumova and Volodymyr Kardashuk

Estimation and Prediction of Nonlinear Aerodynamics using Artificial Intelligence

Mohammad Alkhedher and Khaled Al-Arife

Wavelet Ideology and Morphological Operations for Analyzing RGB Images of Cytological Preparations

Vyacheslav Lyashenko, Oleg Kobylin, Oleksandr Ryazantsev, Ivan Ryazantsev, Viktor Barbaruk and Yevhen Zhychenko

Single Vision-Based Self-Localization for Autonomous Robotic Agents
Marios Avgeris, Dimitrios Spatharakis, Nikolaos Athanasopoulos, Dimitrios Dechouniotis and Symeon Papavassiliou

15:00-15:30

Coffee Break

15:30-17:00

Parallel Sessions

FiCloud Session 8: Energy Efficiency

Session Chair: Omer Rana, Cardiff University, UK

Room: Elmas

Directional Graph-Based Energy Model for IoT Wireless Relay Systems
Gabriel Astudillo, Michel Kadoch and Bessam Abdulrazak

LEPaNTU: Long Polling based Energy Efficient Passive NAT Traversal through UDP

Sunanda Bose, Akash Chowdhury and Nandini Mukherjee

Energy Consumption Monitoring and Alert System via IoT
Zainal Hisham Che So, Irni Hamiza Hamzah, Syahrul Afzal Che Abdullah, Mohd Affandi Shafie, Siti Noraini Sulaima and Kamarulazhar Daud

Systems that Sustain Themselves: Energy Harvesting Sensor Nodes for Monitoring the Environment

Kaumudi Singh, Nithesh Nayak K, Anup A Kedilaya¹, T V Prabhakar and Joy Kuri

DEEP-ML Session 3: Deep and Machine Learning in Advanced Applications 1

Session Chair: Rehab Duwairi, Jordan University of Science and Technology, Jordan

Room: Divan 1

A Visual Similarity Recommendation System using Generative Adversarial Networks

Betul Ay, Zeynep Koyun, Mehmet Demir and Galip Aydin

Collaborative Recommendation System for Online Courses Recommendations
Raghad Obiedat, Rehab Duwairi and Ahmad Al-Aiad

A Comparison of Clustering Measures on Raw Signals of Welding Production Data

Selvine George Mathias, Daniel Großmann and Gerald Joy Sequeira

AIRS2 Session 2: Artificial Intelligence, IoT, Robotics and Smart Systems 2

Session Chair: Tetiana Biloborodova, Volodymyr Dahl East Ukrainian National University, Ukraine

Room: Divan 2

Statistical Optical Image Analysis for Information System

Andrii O. Riazantsev, Ganna M. Khoroshun, Oleksandr I. Ryzantsev, Vitalii Ivanov and Aleksandr Baturin

An Intelligent Functional Diagnostics of Wireless Sensor Network

Gennady Krivulya, Inna Skarga-Bandurova, Zakhar Tatarchenko, Olena Seredina, Maryna Shcherbakova and Eugene Shcherbako

Towards Development IoT-based Water Quality Monitoring System

Inna Skarga-Bandurova, Yana Krytska, Mikhail Shorokhov, Oleksandr Suvorin, Lina Barbaruk and Maryna Ozheredova

A Personal Mobile Sensing System for Motor Symptoms Assessment of Parkinson's Disease. Tetiana Biloborodova, Inna Skarga-Bandurova, Viktoriia Derevianchenko, Illia Skarha-Bandurov, Halyna Tatarchenko and Victoria Mokhonko

17:00-18:30

Parallel Sessions

FiCloud Session 9: Industrial Applications

Session Chair: Marcin Bajer, ABB Corporate Research Kraków, Poland

Room: Elmas A

Utilizing 5G in Industrial Robotic Applications

Markus Aleksy, Fan Dai, Nima Enayati, Peter M. Rost and Guillermo Pocovi

Building Advanced Metering Infrastructure using Elastic Search Database and IEC 62056-21 Protocol

Marcin Bajer

IoTSP: Thread Mesh vs other widely used Wireless Protocols – Comparison and Use Cases Study

Wojciech Rzepecki and Piotr Ryba

Intelligent IoTSP - Implementation of Embedded ML AI Tensorflow Algorithms on the NVIDIA Jetson Tx Chip

Piotr Lipnicki, Paweł Wnuk, Daniel Lewandowski, Anna Szyber and Michał Syfert

Intelligent Device Disambiguation for Smart Home Control

Siddharth Chaudhary, Shalabh Singh, Vijaya Kumar Tukka, Vinisha Parwal and Siddhartha Sinha

DEEP-ML Session 4: Deep and Machine Learning in Advanced Applications 2

Session Chair: Mak Sharma, Birmingham City University, UK

Room: Divan 1

Interpretable Machine Learning in Healthcare through Generalized Additive Model with Pairwise Interactions (GA2M): Predicting Severe Retinopathy of Prematurity

Tamer Karatekin, Selim Sancak, Gokhan Celik, Pinar Kirci and Ali Okatan

Cursive Handwritten Text Recognition using Bi-Directional LSTMs: A case study on Urdu Handwriting

Shahbaz Hassan, Ayesha Irfan, Ali Mirza and Imran Siddiqi

Recognition and Classifying Sales Flyers Using Semi-Supervised Learning

Harlinton Palacios Mosquera and Ogr. Uyesi Yakup Genc

FiCloud Session 10: Network and Multimedia Data

Session Chair: Jordi Casademont, Universitat Politecnica de Catalunya, Spain

Room: Divan 2

High Quality Video Traffic Ateb-Forecasting and Fuzzy Logic Management

Ivanna Dronyuk, Olga Fedevych and Natalia Kryvinska

In-Video Game Player's Behavior Measurement using Big Five Personal Traits

Muhannad Quwaider, Abdullah Alabed and Rehab Duwairi

SCoTv2: Large Scale Data Acquisition, Processing, and Visualization Platform

Ana Rita Santiago, M'ario Antunes, Jo'ao Paulo Barraca, Diogo Gomes and Rui L. Aguiar

The Audio-Visual Arabic Dataset for Natural Emotion

Ftoon Abu Shaqra, Rehab Duwairi and Mahmoud Al-Ayyoub

Discovering a Learning Module for Poker's Rulethrough Data Mining Algorithms

Tsenguun Tsogbadrakh and Amal Alhosban

19:30-21:30

Banquet (Dinner)

WEDNESDAY 28 AUGUST 2019

09:00-10:30

Plenary Session: Invited Industry Talk 2

Modularity as a Support for Frugal Product and Supplier Network Co-Definition under Regional Market Constraints

Gökhan Büyükdığın and Osman Er, Arçelik A.S., Turkey

Session Chair: Perin Unal, Teknopar, Turkey

Room: Elmas

DSD4IDS/PMECT/CSW Session: Network, Data Science and Security

Session Chair: Filipe Portela, University of Minho, Portugal

Room: Divan 1

A Preemptive Hybrid Approach to Minimum Spanning Tree Restoration in Large Mesh SDN Networks

Wayne Collymore

An Overview of Data Mining Representation Techniques

Domingos Costa, Filipe Portela and Manuel Filipe Santos

Towards the development of a Data Science Modular Solution

Gisela Fernandes, Filipe Portela and Manuel Filipe Santos

Mobile Information Security Risk Calculator

Yusuf Muhammad Tukur

Innovate-Data Session 3: Big Data Innovation and Applications

Session Chair: Orazio Tomarchio, University of Catania, Italy

Room: Divan 2

A Decentralized File Sharing Framework for Sensitive Data

Onur Demir and Berkay Kocak

The Information System for the Research in Carotid Atherosclerosis

Jiri Blahuta and Tomas Soukup

Committee of the SGTM Neural-like Structures with Extended Inputs for Predictive Analytics in Insurance

Roman Tkachenko, Ivan Izonin, Pavlo Tkachenko, Michal Greguš ml. and Ivanna Dronyuk

Game Analytics on Free to Play, Robert Flunger

Andreas Mladenow and Christine Strauss

10:30-11:00

Coffee Break

FiCloud Session 11: Cloud and IoT Applications

Session Chair: Michaël David, University of Lorraine, France

Room: Elmas

Wake-Up Radio systems for Cooperative-Intelligent Transport Systems Architecture

Jordi Casademont, Elena Lopez-Aguilera and Josep Paradells

Indoor Mapping and Positioning using Augmented Reality

İbrahim Alper Koç, Tacha Serif, Sezer Gören and George Ghinea

Ontology-Based Knowledge Modeling for Rice Crop Production

Hifza Afzal and Mumraiz Khan Kasi

A Survey of Mobile Health Applications in Context of Internet of Things

Muneer Bani Yassein, Lujain Al-smadi and Lina Mraya

RoboMapper: An Automated Signal Mapping Robot for RSSI Finger printing

Osman Kerem Perente, Yusuf Dalan and Tacha Serif

DEEP-ML Workshop Session 1: Hands-on Workshop on Deep Learning with Python

Room: Divan 1

Coordinator: Serpil Üstebay, Istanbul Medeniyet University, Turkey

This workshop will provide hands-on experience of Deep learning using Python. The workshop will comprise two sessions.

In the first session, participants will be given a general overview of the Python language. Participants would be able to learn about reading and processing the data sets in different formats which will be used in the given problem domain. They will also learn how to divide data for training, testing and validation (cross validation), and handle missing values like NaN.

Innovate-Data Session 4: Security and Risk Analysis

Session Chair: Aneta Poniszewska-Maranda, Lodz University of Technology, Poland

Room: Divan 2

Big Data Analytics for Financial Crime Typologies

Kirill Plaksy, Andrey Nikiforov and Natalia Miloslavskaya

Development of a Model for Identifying High-Risk Operations for AML/CFT Purposes

Pavel Y. Leonov, Viktor P. Suyts, Oksana S. Kotelyanets and Nikolai V. Ivanov

Monitoring System for the Housing and Utility Services based on the Digital Technologies IIoT, Big Data, Data Mining, Edge and Cloud computing

Vasilij S. Kireev, Pyotr V. Bochkaryov, Anna I. Guseva, Igor A. Kuznetsov and Stanislav A. Filippov

K-means Method as a Tool of Big Data Analysis in Risk-oriented Audit

Pavel Y. Leonov, Viktor P. Suyts, Oksana S. Kotelyanets and Nikolai V. Ivanov

12:30-13:30

Lunch

13:30-15:00

Parallel Sessions

FiCloud Session 12: Advanced Network Management

Session Chair: Aneta Poniszewska-Maranda, Lodz University of Technology, Poland

Room: Elmas

AL and S methods: two extensions for L-method

Mário Antunes, Henrique Aguiar and Diogo Gomes

Detection of Network Congestion and Denial of Service (DoS) Attacks in Cognitive Radio Networks

Chuku Ejike and Demetres Kouvatsos

Fuzzy based Packet Scheduling Scheme using Non-Real time Traffic in IP/MPLS Networks

Oba Zubair Mustapha, Mohammed Ali, Yim Fun Hu, Raed A. Abd-Alhameed

Packet Routing Based on Integral Normalized Criterion

Michal Greguš ml, Oleh Liskevych, Kvitoslava Obelovska and Roman Panchyshyn

Intelligent Solutions for Secure Communication and Collaboration Based on Cloud Technologies

Peter Balco, Martina Drahošová, Juraj Zelenay and Michal Greguš, Jr.

DEEP-ML Workshop Session 2: Hands-on Workshop on Deep Learning with Python

Room: Divan 1

Coordinator: Serpil Üstebay, Istanbul Medeniyet University, Turkey

The second session will first provide an overview of the main working principles of artificial neural networks. Participants will then develop their own models. The plan is to start with a single layer ANN example and then develop deep ANN models. Participants will learn how to create, train, test and calculate the performance metrics of their models. They will also learn feature reduction with autoencoders. Again the plan is to start with Vanilla Autoencoder and develop complex models with stack Autoencoder structure.

ICI Session: Intercloud and IoT

Session Chair: Mak Sharma, Birmingham City University, UK

Room: Divan 2

In-depth Analysis of Signal Jammers and Anti-Jamming Effect on 5G Signal
Eias Elmahi, Shahram Salekzamankhani and Mak Sharma

Cloud Computing: A New Success Model
Ahmed Elmorshidy

Address Entities Extraction using Named Entity Recognition
Emine Yaman and Kanita Koric

The Privacy Requirements for Wearable IoT Devices in Healthcare Domain
Rawan Alharbi and Haya Almagwashi

Retaining Quranic Memorization for Huffaz at the Malaysian Tertiary Institutions: Key Challenges and Future IoT Potentialities
Fatimah Zaharah Ismail, Nor Hafizi Yusof, Ahmad Farimin Ahmad Osman, Rahimah Embong, Mohamed Fathy Mohamed Abdelgelil and Najmiah Omar

***** PROGRAM END *****